

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
20 April 2006 (20.04.2006)

PCT

(10) International Publication Number  
**WO 2006/041545 A2**

(51) International Patent Classification:

F01N 3/00 (2006.01) F01N 3/10 (2006.01)

(21) International Application Number:

PCT/US2005/023527

(22) International Filing Date: 1 July 2005 (01.07.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/615,810 4 October 2004 (04.10.2004) US

(71) Applicant: SOUTHWEST RESEARCH INSTITUTE  
[US/US]; 6220 Culebra, San Antonio, Tx 78228 (US).

(72) Inventors: HUANG, Yiqun (NMN); 3838 Lockhill-Selma Road N°432, San Antonio, TX 78230 (US). SASAKI, Shizuo (NMN); 8302 Hausman Road W-514, San Antonio, TX 78249 (US). NEELY, Gary, D.; 9330 Foxgrove Way, San Antonio, TX 78251 (US). LEET, Jeffery, A.; 3302 Bercy Lane, San Antonio, TX 78251 (US).

(74) Agent: LEE, Ted, D.; Gunn & Lee, P.C., Suite 1500, 700 N. St. Mary's Street, Suite 1500, San Antonio, TX 78205 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

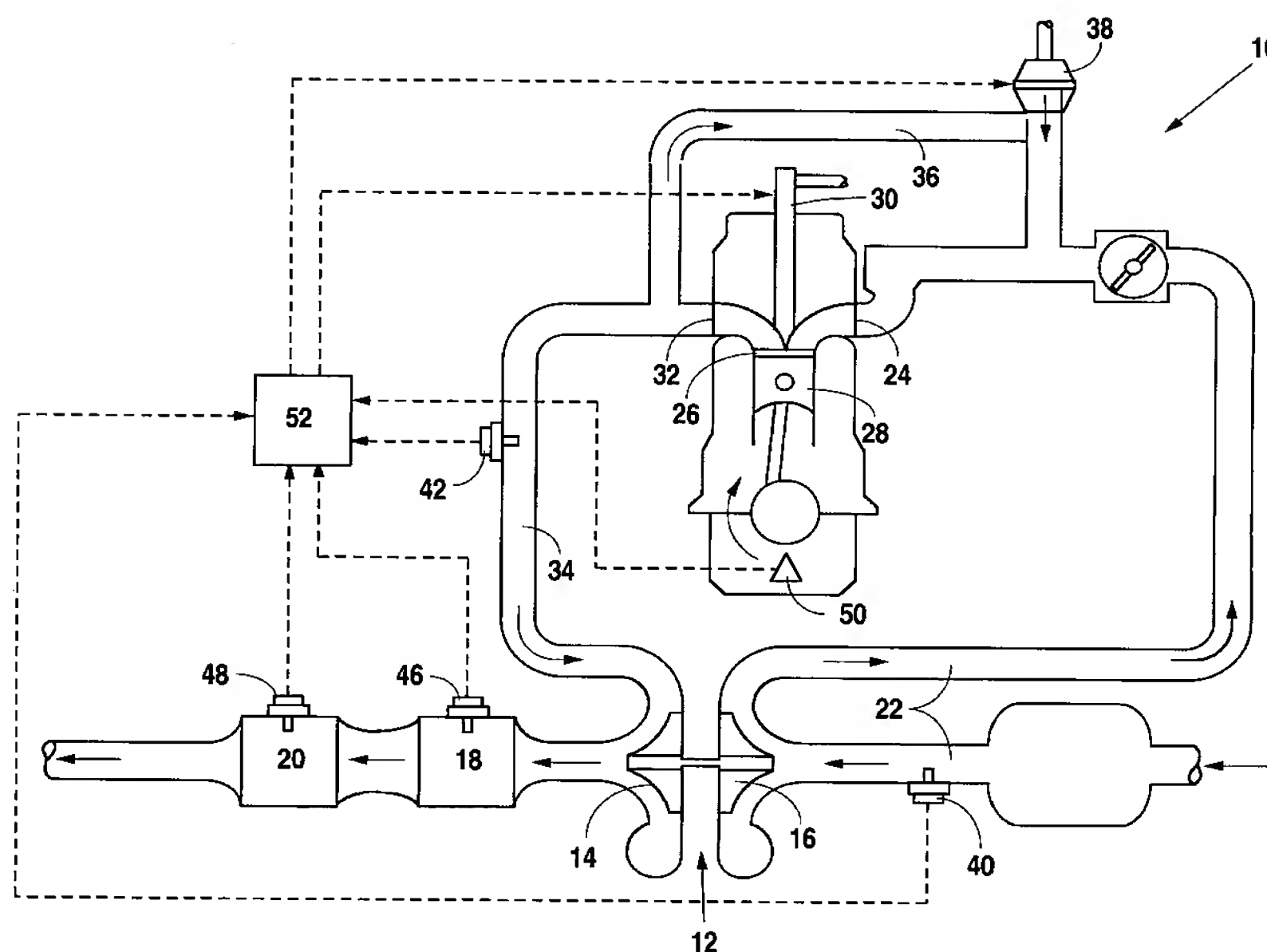
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHOD FOR THE SIMULTANEOUS DESULFATION OF A LEAN NO<sub>x</sub> TRAP AND REGENERATION OF A DIESEL PARTICULATE FILTER



(57) Abstract: High exhaust gas temperatures whereby sulfur is removed from a lean NO<sub>x</sub> traps simultaneously with regeneration of a Diesel particulate filter is provided by alternating engine operation in respectively defined lean and rich combustion modes. The duration and frequency of the respective lean and rich operating modes, as well as the air/fuel ratio during the respective modes, are preferably controlled by the sensed temperature of the lean NO<sub>x</sub> trap substrate.

WO 2006/041545 A2